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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,534	03/15/2001	Michael Charles Milner Cockrem	2027.601000	4508
23720	7590	04/06/2004	EXAMINER	
WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			MANOHARAN, VIRGINIA	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/809,534	Applicant(s) COCKREM ET AL.	
	Examiner Virginia Manoharan	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The abstract of the disclosure is objected to because of the inclusion of legal phraseology normally used in patent claims such as "comprises" in line 5. Correction is required. See MPEP § 608.01(b).

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors, e.g. typographical grammar, idiomatic, syntax and etc. Applicants' cooperations are requested in correcting any errors of which applicants may become aware in the specification.

Claims 1-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A). The claimed " heating at least one of the feed stream, the azeotroping agent..." recited e.g., in claim 1 provides for ambiguity and confusion because the claim initially recites mixing them which would presupposed for heating of the mixed. Claim 1 is also incomplete without reciting the process connection between the mixing and the heating step. See also claims 53-54.

B). The claims are indefinite and/or incomplete because an azeotrope is normally defined by its pressure and composition, but which parameters are not specified in the claims. [Both the weight percentages and the boiling point of a component of an azeotrope composition are subject to change when the composition is subjected to boilings at different pressures such that an azeotrope must be defined in terms of the

Art Unit: 1764

compositional ranges of the componentst or in terms of the exact weight percentages of each component of the composition defined by a fixed boiling point at a specified pressure].

C). The inconsistent used of terminologies in the claims is improper. For example: the numerously recited "the azeotroping agent" as opposed to the initially recited "at least one azeotroping agent". See e.g., claim 1, line 5 and line 8 respectively and claim 54.

D). The feedstreams recited in claims 19 and 35 are at odd with the feedstreams recited in the claims from which they depend respectively. (A dependent claim incorporates every features of the claims from which it depends and cannot change the limitation already recited in the independent claim).

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-54 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-58 and 1-64 of copending Application No. 09/809,243 and 809,649 respectively. Although the conflicting claims are not identical, they are not patentably distinct from each other

Art Unit: 1764

because the method steps of the instant claims are covered in the process of the above copending application and vice versa. The difference seen is in the constituent of the feedstream. However, said difference is deemed not to constitute a patentable distinction inasmuch as "product" and/or the fluid-in –process is not the basis of patentability of the process itself.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-54 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-58 and 1-64 of copending Application No. 09/809,243 and 809,649 respectively. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: the mixing of a feedstream and the at least one azeotroping agent; the heating of the at least one of the feedstream, the azeotroping agent or the mixture thereof thereby producing a first vapor stream comprising one of the feedstream and the azeotroping agent and separating the first vapor stream from the mixture.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other

Art Unit: 1764

copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16, 18-32, 34 and 36-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benecke et al (5,319,107) with or without the Perry et al publication.

Benecke et al discloses substantially the process as claimed. See e.g., the claims at columns 56-66. The process of Benecke et al differs from the claimed invention in that Benecke et al does not positively disclose producing a first vapor comprising at least one azeotrope comprising the cyclic ester of the hydroxy organic acid and the azeotroping agent. However, It would have been obvious to one of skill in the art, at the time the invention was made, that an azeotrope comprising the cyclic ester of the hydroxy organic acid and the azeotroping agent is formed in the process of Benecke et al, inasmuch as Benecke et al suggests at column 13, lines 55-68 the process of codistilling cyclic ester with e.g., alkylbenzene. The Perry et al publication is applied to teach that "...close-boiling components with small deviations from ideality may form an azeotrope, whereas other compounds which form very non-ideal liquid mixtures cannot exhibit an azeotrope because of a wide difference in their boiling points". Note page 13-36. Thus, the codistillation of components suggested by Benecke et al would necessarily form an azeotrope in view of the teaching, *supra*, of the

Art Unit: 1764

Perry et al publication. Moreover, the first azeotrope comprising a hydroxy organic acid further claimed in claims 48 and 53 are obvious in view of Benecke et al disclosure at column 58, lines 55-64.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benecke et al with or without the Perry et al publication as applied to claims 1-16, 18-32, 34 and 36-54 above, and further in view of Baniel et al (5,510,526).

That the feedstream in Benecke et al process comprises a liquid extractant comprising an alkylamine as claimed in claim 17 is known in the art as taught by Baniel et al. See the abstract of Baniel. To incorporate Baniel et al teaching, supra, to the process of Benecke would have been obvious to one of ordinary skill in the art inasmuch as both references are directed to processing the same family of compounds including e.g., lactic acid and lactide compounds.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benecke et al with or without the Perry et al publication as applied to claims 1-16, 18-32, 34 & 36-54 above, and further in view of WO 64850.

The WO '850 teaches that using a falling-film evaporator, tray or a packed column for its art-recognized function in the process Benecke et al is conventionally done in the art. See page 8, lines 7-10 and page 9, line 5.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benecke et al with or without the Perry et al publication as applied to claims 1-16, 18-32, 34 and 36-54 above, and further in view of Kulprathipanja et al (5,068,418).

Art Unit: 1764

Kulprathipanja et al teaches that a feedstream comprising the elements as claimed in claim 35 is known in the art. Note column 12, lines 48-52. To incorporate the elements of Kulprathipanja in the feedstream of Benecke would have been obvious to one of ordinary skill in the art inasmuch as both references are directed to processing the same environment, i.e. , to processing a family of lactic acid/lactide compound.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Horlenko Tcherkowsky, and Iffland all suggest an heteroazeotrope comprising e.g. ,of an organic acid, azeotroping agent and water (in Horlenko).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is (571) 272-1450. The examiner can normally be reached on Tuesday-Friday from 7:00a.m to 6:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9311.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Application/Control Number: 09/809,534



Page 8

Art Unit: 1764

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manoharan/tgd

March 16, 2004

 
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ART UNIT 1764 